

SECTION 22 4200

PLUMBING FIXTURES

LANL MASTER SPECIFICATION

When editing to suit project, author shall add job-specific requirements and delete only those portions that in no way apply to the activity (e.g., a component that does not apply). To seek a variance from applicable requirements, contact the ESM Mechanical POC.

When assembling a specification package, include applicable specifications from all Divisions, especially Division 1, General Requirements.

Delete information within "stars" during editing.

Specification developed for ML-3 / ML-4 projects. For ML-1 / ML-2, additional requirements and QA reviews are required.

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Water closets
 - 2. Urinals
 - 3. Lavatories and insulation kits
 - 4. Sinks
 - 5. Showers
 - 6. Electric water coolers
 - 7. Service sinks
 - 8. Emergency showers
 - 9. Emergency Eye and Face Wash
 - 10. Emergency Combination Shower with Eye and Face Wash
 - 11. Tepid Water Blending System

1.2 SUBMITTALS

- A. Submit the following in accordance with Section 01 3300, Submittal Procedures:
 - 1. Product Data: Submit catalog illustrations of fixtures, sizes, [rough-in dimensions,] utility sizes, trim, and finishes.
- B. Manufacturer's Installation Instructions: Submit installation methods and procedures.

- C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Submit in accordance with Section 01 7700, Contract Closeout.
- B. Operation and Maintenance Data: Submit fixture, trim, exploded view and replacement parts lists.

1.4 QUALITY ASSURANCE

- A. Provide products requiring electrical connections listed and classified by a nationally recognized testing laboratory as suitable for purpose specific and indicated.
- B. Provide ADA compliant products.
- C. Provide water conserving fixtures and fittings complying with the Uniform Plumbing Code or exceeding UPC where noted.

PART 2 PRODUCTS

2.1 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Alternate products may be accepted; follow Section 01 2500, Substitution Procedures.

2.2 FLUSH VALVE WATER CLOSETS

- A. Bowl: ASME A112.19.2M; white, wall hung, vitreous china closet bowl, with elongated rim, 1-1/2 inch top spud.
 - 1. Manufacturer: Kohler, Model K4330, Kingston.
- B. Sensor Operated Flush Valve: ASME A112.18.1, ADA compliant; concealed rough brass, diaphragm type with battery operated solenoid operator, infrared sensor and over-ride button in chrome plated plate, wheel handle stop and vacuum breaker; maximum 1.6 gallon flush volume.
 - 1. Manufacture: Sloan, Model 8111-LH-MC, Optima Plus.
- C. Seat: Solid white plastic, elongated open front, check hinge, brass bolts, less cover.
 - 1. Manufacturer: Kohler, Model K-4670-C.
- D. Wall Mounted Carrier: ASME A112.6.1M; cast iron frame, integral drain hub and vent, adjustable spud, lugs for floor and wall attachment, threaded fixture studs with nuts and washers.

2.3 WALL HUNG URINALS

- A. Urinal: ASME A112.19.2M; vitreous china, wall hung, washout urinal with shields, integral trap, removable stainless steel strainer, and 3/4 inch top spud. Urinal shall use 0.5gallons per flush.
 - 1. Manufacturer: Kohler, Model K-4960-ET, Bardon.
- B. Sensor Operated Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with battery operated solenoid operator, infrared sensor and vacuum breaker; maximum 1/2 gallon flush volume.
 - 1. Manufacturer: Sloan, Model 8186-0.5, Optima Plus.
- C. Wall Mounted Carrier: ASME A112.6.1M; cast iron and steel frame, lugs for floor and wall attachment and threaded fixture studs for fixture hanger.

2.4 LAVATORIES

- A. Vitreous China Wall Hung Lavatory: ASME A112.19.2M; vitreous china wall mount lavatory, with 4 inch high back, 21 x 18 inches rectangular basin with splash lip and front overflow.
 - 1. Manufacturer: Kohler, Model K-2005 (4 inch centers), Kingston.
- ***** [OR] *****
- B. Vitreous China Countertop Lavatory: ASME A112.19.2M; vitreous china self-rimming countertop lavatory, 20 1/4 x 17 1/2 inches with drillings on 4 inch centers, front overflow, seal of putty, caulking, or concealed vinyl gasket.
 - 1. Manufacturer: Kohler, Model K-2196-4, Pennington.
- C. Metered Faucet: ASME A112.18.1; chrome plated metered mixing faucet , maximum 0.25 gallons per use, 30 second automatic shut off, battery-operated solenoid operator and infrared sensor, aerator, trim plate, open grid strainer, back check for hot and cold supply, and thermostatic mixing valve.
 - 1. Manufacturer: Sloan, Model EBF-85-A, Optima Plus.
- D. Accessories:
 - 1. Chrome plated 17-gage brass P-trap with clean-out plug and arm with escutcheon.
 - 2. Chrome plated rigid supplies to fixtures with chrome plated brass [loose key] [screwdriver] [wheel handle] stops, reducers, and escutcheons.
 - 3. Offset waste with perforated open strainer.
 - 4. Trap and waste insulated and offset to meet ADA compliance.
- E. Wall Mounted Carrier: ASME A112.6.1M; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, concealed arm supports, bearing plate and studs.

2.5 SINKS

The following are example specifications of different types of sinks. Edit accordingly to suit project.

- A. Single Compartment Bowl: ASME A112.19.3, Commercial Grade, []x[]x[] inch outside dimensions, 18 gage, Type 304 stainless steel. Self-rimming and undercoated, with 1-1/2 inch chrome brass drain, 3-1/2 inch crumb cup and chrome brass tailpiece, ledge back drilled for trim.

1. Manufacturer: Elkay, Model []

***** [OR] *****

- B. Double Compartment Bowl: ASME A112.19.3, Commercial Grade, []x[]x[] inch outside dimensions 18 gage, Type 304 stainless steel. Self-rimming and undercoated, with 1-1/2 inch chrome brass drain, 3-1/2 inch crumb cups and chrome brass tailpiece, ledge back drilled for trim.

1. Manufacturer: Elkay, Model []

***** [OR] *****

- C. Enameled Bowl: ASME A112.19.1M, white, cast iron, porcelain enameled double (equal) compartment, 32 x 22 inch outside dimensions, self-rimming and undercoated, with 4 hole faucet drilling, 3-1/2 inch diameter crumb cup, chrome brass tailpiece, and 1 1/2 inch chrome brass drain.

1. Manufacturer: Kohler, Model 5942-4, Brookfield.

- D. Trim: ASME A112.18.1; chrome plated brass supply with gooseneck spout, aerator with maximum 2.0 gpm flow, indexed lever handles.

1. Manufacturer: Kohler, K-7304-K, Triton.

- E. Accessories:

1. Chrome plated 17-gage brass P-trap with clean-out plug and arm with escutcheon.
2. Chrome plated rigid supplies to fixtures with chrome plated brass [loose key] [screwdriver] [wheel handle] stops, reducers, and escutcheons.

2.6 SHOWERS

- A. Wheelchair Accessible Cabinet: ANSI Z124.2; reinforced glass fiber, [36 x 36 x 80 inch] high, soap dish, integral seat, ADA compliant grab bars, removable chrome plated strainer, tail piece, [] color [as selected].

1. Manufacturer: Florestone, Model [36-34H] [3PC-36-34H]

- B. Regular Cabinet: ANSI Z124.2 reinforced glass fiber, 32 x 35 x 73 inch high, soap dish, integral seat, removable chrome plated strainer, tailpiece, [white] color [as selected].
 - 1. Manufacturer: Florestone, Model 32-3W (32 x 35 inch)
- C. Shower Valve: Concealed shower supply, pressure balanced, anti-scald, brass body, with single lever handle, ceramic disc cartridge, integral stops, bent shower arm with flow control and adjustable spray ball joint showerhead with maximum 2.5 gpm flow, and escutcheon.
 - 1. Manufacturer: Delta Monitor 1700 series.
- D. ADA Compliant Shower Valve: Concealed shower supply, pressure balanced, anti-scald, brass body, with single lever handle, ceramic disc cartridge, integral stops, with flow control and adjustable spray ball joint showerhead with maximum 2.5 gpm flow, and escutcheon, hand held shower, 70 inch metal clad shower hose and 24 inch slide bar, female inlet and vacuum breakers.

2.7 ELECTRIC WATER COOLERS

A. Fountain:

Other vinyl cabinet colors are available at no extra cost. Stainless steel units are available at an extra charge.

- 1. ARI 1010, no lead design, handicapped wall mounted electric water cooler with stainless steel top, [standard gray beige vinyl cabinet] [stainless steel cabinet], elevated anti-squirt bubbler with stream guard, automatic stream regulator, push bar activation on front and sides, mounting bracket, refrigerated with integral air cooled condenser.
 - 2. Capacity: 8 gph of 50 degrees F water, based upon 80 degrees F inlet water and 90 degrees F ambient.
 - 3. Electric Water Cooler shall be UL listed in accordance with ANSI/NSF 61 Section 9.
 - 4. Electrical: Provide with electric cord and 3 prong rubber plug.
 - a. Manufacturer: Elkay, Model EBFSA8.
- B. Accessories:
- 1. Chrome plated 17-gage brass P-trap with clean-out plug and arm with escutcheon.
 - 2. Chrome plated rigid supplies to fixtures with chrome plated brass [loose keys] [screwdriver] [wheel handle] stops, reducers, and escutcheons.

2.8 SERVICE SINKS

- A. Bowl: ASME A112.19.1M; 22 x 18 x 12 inch deep, white porcelain enameled (inside only) cast iron roll-rim sink, with 12 inch high back, concealed hanger, chrome plated strainer, stainless steel rim guard, cast iron [2] [3] inch P-trap with adjustable floor flange.

1. Manufacturer: Kohler, K-6714, Bannon, Service Sink, [K-6672, 2 inch P-Trap] [K-6673, 3 inch P-Trap].

***** [OR] *****

- B. Bowl: [36 x 24 x 10 inch] [24 x 24 x 10 inch] high [white] [] molded stone, floor mounted, with one inch wide shoulders, [stainless steel bumper guard,] stainless steel strainer.

1. Manufacturer: Fiat, Model [MSB-3624] [MSB-2424].

- C. Trim: ASME A112.18.1 exposed wall type supply with cross handles, spout wall brace, vacuum breaker, hose-end spout, strainers, integral screwdriver stops with covering caps and adjustable threaded wall flanges.

1. Manufacturer: Fiat, Model 830-AA

- D. Accessories:

1. 5 feet of 1/2 inch diameter plain end reinforced rubber hose, and bracket.
Manufacturer: Fiat, Model 832-AA.
2. Mop hanger, Manufacturer: Fiat, Model 889-CC.

2.9 EMERGENCY SHOWER

Refer to Mechanical Standard Drawing ST-D2010-1 for emergency equipment details. The following are example specifications for emergency equipment. Edit accordingly to suit project. Consult with manufacturer when equipment requires freeze, corrosion or UV protection. Refer to manufacturers installation details for piping tie-in details.

- A. ANSI Z358.1; [wall-mounted horizontal supply] [wall-mounted vertical supply] [floor-mounted with floor flange], 10 inch diameter [stainless steel] [plastic] drench shower head, [1 inch] [1-1/4 inch] IPS supply, instant action stay open valve actuated by rigid stainless steel pull rod. Furnish universal emergency sign.

1. Manufacturer: Haws, 8100 Series.

2.10 EMERGENCY EYE AND FACE WASH

- A. ANSI Z358.1; [wall-mounted with trap] [wall-mounted with waste tail piece] [pedestal mounted with floor flange], [stainless steel bowl] [plastic bowl], 1/2 inch IPS supply, instant action stay open valve actuated by [push flag] [foot pedal]

[push flag or foot pedal], twin spray heads [with face spray ring], [dust cover assembly,] [wall mount bracket,] and tailpiece and chrome-plated brass P-trap. Furnish universal emergency sign.

1. Manufacturer: Haws, [7000 Series (plastic bowl)] [7300 Series (stainless steel bowl)].

2.11 EMERGENCY COMBINATION SHOWER WITH EYE AND FACE WASH

- A. Shower: ANSI Z358.1; floor mounted with floor flange, 10 inch diameter [stainless steel] [plastic] drench shower head, instant action stay open valve actuated by rigid stainless steel pull rod.
- B. Eyewash: ANSI Z358.1; [plastic] [stainless steel] bowl, instant action stay open valve actuated by [push flag] [foot pedal] [push flag or foot pedal], twin spray heads [with face spray ring], [dust cover assembly].
- C. Supply and Waste Piping: 1-1/4 inch IPS.
- D. Furnish universal emergency sign.
- E. [Furnish corrosion-resistant coating.]
- F. Manufacturer: Haws, 8300 Series.

2.12 TEPID WATER BLENDING SYSTEM (Emergency Showers)

- A. Product Description: Provide an assembly with two backup valves, separate high temperature sensing shut-off valve, separate full-flow pressure relief bypass, and temperature and pressure-compensating blending valve to plus or minus 3 degrees F. Water delivery temperature range 60 to 90 degrees F per ANSI Z358.1, Appendix A, over a range of flows to 35 gpm.
 1. Manufacturer: HAWS, TWBS.SH.

2.13 LAVATORY INSULATION KIT

- A. Product Description: Where lavatories are noted to be insulated for ADA compliance, furnish the following: Safety Covers conforming to ANSI A117.1 and consisting of insulation kit of molded closed-cell vinyl construction, 1/8 inch nominal thick, white color, for insulating tailpiece, P-trap, valves, and supply piping. Furnish with weep hole and angle valve access covers.
 1. Manufacturer: Truebro, Lav-Guard.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify walls and floor finishes are prepared and ready for installation of fixtures.
- B. Verify electric power is available and of correct characteristics.

3.2 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

- A. Install each fixture with trap, easily removable for servicing and cleaning.
- B. Install fixture supplies with smooth bends and no kinks.
- C. Install components level and plumb.
- D. Install and secure fixtures in place with [wall supports] [wall carriers] and bolts.
- E. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 9200, Joint Sealants, color to match fixture.

3.4 INTERFACE WITH OTHER PRODUCTS

- A. Review millwork shop-drawings. Confirm location and size of fixtures and openings before rough in and installation.

3.5 ADJUSTING

- A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.6 CLEANING

- A. Clean plumbing fixtures and equipment.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Do not permit use of fixtures before final acceptance.

END OF SECTION

Do not delete the following reference information:

FOR LANL USE ONLY

This project specification is based on LANL Master Specification 22 4200 Rev. 1, dated April 20, 2006.